

BRIEFER ARTICLES.

Mimicry of fungi in insects.—It has long been known to botanists as well as entomologists that certain butterflies belonging to the genus *Kallima*, although the upper surface of their wings is brilliantly colored, have the under surface of a dull gray or grayish-brown color. A large species often seen in museums, *Kallima Inachis*, always excites admiration when mounted with the wings expanded, from the beautiful and intense blue color of the upper surface. When specimens of this species are mounted so as to show the insect resting on a twig with the wings closely overlapping, the resemblance to a dead leaf attached to the twig is something astonishing. The color is precisely that of a dead leaf and the outline is that of a leaf, for at the lower angle of the wings, they are suddenly narrowed so as to form, in the resting position, a remarkable resemblance to a petiole. Although this mimicry of a leaf is well known, I do not remember to have seen it stated that the mimicry is carried still farther. Recently I was shown some specimens of *Kallima Inachis* from India which had been mounted on plaster by Mr. W. D. Denton. To show how great is the resemblance to a leaf I may say that the first tablet shown was only a few feet from me and I innocently asked why a leaf was mounted with the butterfly; whether it was intended to show the plant it lived upon. To my mortification Mr. Denton said that there was no leaf there; that the tablet showed only the insect in its expanded and its resting postures. On examining the insect more closely, I noticed that the "leaf" appeared to be attacked by a species of *Meliola* and, on turning the specimen so that the light fell obliquely upon it, I noticed patches of a dull olive green color resembling closely the appearance of a leaf on which is growing the young stage of a *Strigula*. In short, the mimicry was carried so far that there was not only an admirable imitation of a leaf but also a mimicry of the parasites which infest leaves in a region like that of which the *Kallima* is a native. On comparing several specimens, one could see that the spots which mimicked parasites were not identical on different individuals but, while there was a general similarity in all, there was just such a diversity in the disposition and intensity of the spots as one would have expected if he had had before him real leaves attacked by parasites like *Meliola* and *Strigula*. Mr. Scudder informs me that entomologists had noticed the spots on the lower surface of the wings of *Kallima* and also the fact that their position varied with the individual.

Naturally it would not occur to them as it would to a mycologist that, in this case, the spots represented a case of mimicry carried, one would suppose, to the highest degree of perfection; for, not only is the whole insect remarkably like a leaf, but, to complete the deception, it is spotted with parasites irregularly distributed precisely like those on real leaves. In the specimens I saw it required no exercise of the imagination to interpret the meaning of the spots, but any person accustomed to examine tropical foliicolous parasites would have been struck immediately with the resemblance.—W. G. FARLOW, *Cambridge, Mass.*

Notes on the sumacs.—*Rhus Caroliniana*, sp. nov. Low but erect, ten to eighteen inches high, with somewhat glaucous branches: petioles terete and smooth; leaflets thirteen to seventeen, oval to oblong-lanceolate, coarsely and irregularly serrate, green above, pale beneath but not glaucous, two to three inches long: flowers polygamous in a close terminal thyrsoïd panicle which is broadly ovate in outline, four to six inches long, the lower branches soft villous, otherwise smooth: drupe discoid, clothed with short red hairs, with a smooth stone.—Flowers in the latter part of May and the acid berries ripen in September.—*Plate XXXVII.*

This species was found in the early part of the present summer in middle North Carolina, growing in old fields and low woods. It seems to be decidedly rare and local and in this state has a very limited distribution. It is most closely allied to *R. glabra*, from which it is at once distinguished by the larger leaflets, fewer in number, and the absence of the glaucous-like whitening beneath. The panicle is broad and spreading while that of *R. glabra* is more narrow. *R. Caroliniana* occurs with *R. glabra* and *R. copallina* but attains only a low growth.

It may be of interest to know that *Rhus pumila* Michx. was collected during the past summer in western North Carolina. Chapman's Flora of the Southern States gives the habitat of this species as "pine-barrens, from North Carolina to Georgia." I can find no record, however, of its having been collected in this section and, as I have failed to find it there after a careful examination, have concluded it was an error. The description as given by Dr. Chapman is very good, though the lower limit of the number of leaflets is probably nine instead of eleven. Pursh in his Flora of North America, correctly gives the plant as occurring in "upper Carolina." It was from this section that John Lyon collected the plants which grew in his garden and from which Pursh made his description. This description is similar to that in Chapman's Flora except that the number of the leaflets is not defin-